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1647

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/405,504A

DATE: 02/22/2001
TIME: 15:20:20

TECH CENTER 1600/2900

Input Set : A:\87767whi972lp3mc2 seq list.txt.txt
Output Set: N:\CRF3\02222001\I405504A.raw

ENTERED

see p.5

5 <110> APPLICANT: Stahl, Andreas
6 Hirsch, David J.
7 Lodish, Harvey F.
8 Gimeno, Ruth E.
9 Tartaglia, Louis A.
11 <120> TITLE OF INVENTION: FATTY ACID TRANSPORT PROTEINS
14 <130> FILE REFERENCE: WHI97-2lp3MC2
16 <140> CURRENT APPLICATION NUMBER: 09/405,504A
17 <141> CURRENT FILING DATE: 1999-09-23
19 <150> PRIOR APPLICATION NUMBER: 09/232,201
20 <151> PRIOR FILING DATE: 1999-01-14
22 <150> PRIOR APPLICATION NUMBER: 60/071,374
23 <151> PRIOR FILING DATE: 1998-01-15
25 <150> PRIOR APPLICATION NUMBER: 60/093,491
26 <151> PRIOR FILING DATE: 1998-07-20
28 <150> PRIOR APPLICATION NUMBER: 60/110,941
29 <151> PRIOR FILING DATE: 1998-12-04
31 <160> NUMBER OF SEQ ID NOS: 105
33 <170> SOFTWARE: FastSEQ for Windows Version 3.0
35 <210> SEQ ID NO: 1
36 <211> LENGTH: 340
37 <212> TYPE: PRT
38 <213> ORGANISM: Mus musculus
40 <400> SEQUENCE: 1
41 Phe Ile Phe Thr Ser Gly Thr Thr Gly Leu Pro Lys Pro Ala Ile Leu
42 1 5 10 15
43 Ser His Glu Arg Val Ile Gln Val Ser Asn Val Leu Ser Phe Cys Gly
44 20 25 30
45 Cys Arg Ala Asp Asp Val Val Tyr Asp Val Leu Pro Leu Tyr His Thr
46 35 40 45
47 Ile Gly Leu Val Leu Gly Phe Leu Gly Cys Leu Gln Val Gly Ala Thr
48 50 55 60
49 Cys Val Leu Ala Pro Lys Phe Ser Ala Ser Arg Phe Trp Ala Glu Cys
50 65 70 75 80
51 Arg Gln His Gly Val Thr Val Ile Gln Tyr Ile Gly Glu Ile Cys Arg
52 85 90 95
53 Tyr Leu Leu Arg Gln Pro Val Arg Asp Val Glu Gln Arg His Arg Val
54 100 105 110
55 Arg Leu Ala Val Gly Asn Gly Leu Arg Pro Ala Ile Trp Glu Glu Phe
56 115 120 125
57 Thr Gln Arg Phe Gly Val Pro Gln Ile Gly Glu Phe Tyr Gly Ala Thr
58 130 135 140
60 Glu Cys Asn Cys Ser Ile Ala Asn Met Asp Gly Lys Val Gly Ser Cys
61 145 150 155 160
62 Gly Phe Asn Ser Arg Ile Leu Thr His Val Tyr Pro Ile Arg Leu Val
63 165 170 175
64 Lys Val Asn Glu Asp Thr Met Glu Pro Leu Arg Asp Ser Glu Gly Leu

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/405,504A

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Input Set : A:\87767whi9721p3mc2 seq list.txt.txt

Output Set: N:\CRF3\02222001\I405504A.raw

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65          180          185          190
66 Cys Ile Pro Cys Gln Pro Gly Glu Pro Gly Leu Leu Val Gly Gln Ile
67          195          200          205
68 Asn Gln Gln Asp Pro Leu Arg Arg Phe Asp Gly Tyr Val Ser Asp Ser
69          210          215          220
70 Ala Thr Asn Lys Lys Ile Ala His Ser Val Phe Arg Lys Gly Asp Ser
71          225          230          235          240
72 Ala Tyr Leu Ser Gly Asp Val Leu Val Met Asp Glu Leu Gly Tyr Met
73          245          250          255
74 Tyr Phe Arg Asp Arg Ser Gly Asp Thr Phe Arg Trp Arg Gly Glu Asn
75          260          265          270
76 Val Ser Thr Thr Glu Val Glu Ala Val Leu Ser Arg Leu Leu Gly Gln
77          275          280          285
78 Thr Asp Val Ala Val Tyr Gly Val Ala Val Pro Gly Val Glu Gly Lys
79          290          295          300
80 Ala Gly Met Ala Ala Ile Ala Asp Pro His Ser Gln Leu Asp Pro Asn
81          305          310          315          320
82 Ser Met Tyr Gln Glu Leu Gln Lys Val Leu Ala Ser Tyr Ala Arg Pro
83          325          330          335
84 Ile Phe Leu Arg
85          340
87 <210> SEQ ID NO: 2
88 <211> LENGTH: 339
89 <212> TYPE: PRT
90 <213> ORGANISM: Mus musculus
92 <400> SEQUENCE: 2
93 Tyr Ile Tyr Thr Ser Gly Thr Thr Gly Asn Pro Lys Pro Ala Val Ile
94 1 5 10 15
95 Lys His Phe Arg Tyr Phe Trp Ile Ala Met Gly Ala Gly Lys Ala Phe
96 20 25 30
97 Gly Ile Asn Lys Ser Asp Val Val Tyr Ile Thr Met Pro Met Tyr His
98 35 40 45
99 Ser Ala Ala Gly Ile Met Gly Ile Gly Ser Leu Ile Ala Phe Gly Ser
100 50 55 60
101 Thr Ala Val Ile Arg Lys Lys Phe Ser Ala Ser Asn Phe Trp Lys Asp
102 65 70 75 80
103 Cys Val Lys Tyr Asn Val Thr Ala Thr Leu Tyr Val Gly Glu Ile Leu
104 85 90 95
105 Arg Tyr Leu Cys Asn Val Pro Glu Gln Pro Glu Asp Lys Ile His Thr
106 100 105 110
107 Val Arg Leu Ala Met Gly Thr Gly Leu Arg Ala Asn Val Trp Lys Asn
108 115 120 125
109 Phe Gln Gln Arg Phe Gly Pro Ile Arg Ile Trp Glu Phe Tyr Gly Ser
110 130 135 140
111 Thr Glu Gly Asn Val Gly Leu Met Asn Tyr Val Gly His Cys Gly Ala
112 145 150 155 160
113 Val Gly Arg Thr Ser Cys Ile Leu Arg Met Leu Thr Pro Phe Glu Leu
114 165 170 175
115 Val Gln Phe Asp Ile Glu Thr Ala Glu Pro Leu Arg Asp Lys Gln Gly

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TECH CENTER 1600/2900

```

116          180          185          190
117 Phe Cys Ile Pro Val Glu Pro Gly Lys Pro Gly Leu Leu Thr Lys
118          195          200          205
119 Val Arg Lys Asn Gln Pro Phe Leu Gly Tyr Arg Gly Ser Gln Ala Glu
120          210          215          220
121 Ser Asn Arg Lys Leu Val Ala Asn Val Arg Arg Val Gly Asp Leu Tyr
122          225          230          235          240
123 Phe Asn Thr Gly Asp Val Leu Thr Leu Asp Gln Glu Gly Phe Phe Tyr
124          245          250          255
125 Phe Gln Asp Arg Leu Gly Asp Thr Phe Arg Trp Lys Gly Glu Asn Val
126          260          265          270
127 Ser Thr Gly Glu Val Glu Cys Val Leu Ser Ser Leu Asp Phe Leu Glu
128          275          280          285
129 Glu Val Asn Val Tyr Gly Val Pro Val Pro Gly Cys Glu Gly Lys Val
130          290          295          300
131 Gly Met Ala Ala Val Lys Leu Ala Pro Gly Lys Thr Phe Asp Gly Lys
132          305          310          315          320
133 Lys Tyr Gln His Val Arg Ser Trp Leu Pro Ala Tyr Ala Thr Pro His
134          325          330          335
135 Phe Ile Arg
138 <210> SEQ ID NO: 3
139 <211> LENGTH: 345
140 <212> TYPE: PRT
141 <213> ORGANISM: Caenorhabditis elegans
143 <400> SEQUENCE: 3
144 Ile Tyr Thr Ser Gly Thr Thr Gly Leu Pro Lys Ser Ala Ile Met Ser
145 1 5 10 15
146 Trp Arg Lys Ser Ser Val Gly Cys Gln Val Phe Gly His Val Leu His
147 20 25 30
148 Met Thr Asn Glu Ser Thr Val Phe Thr Ala Met Pro Leu Phe His Ser
149 35 40 45
150 Thr Ala Ala Leu Leu Gly Ala Cys Ala Ile Leu Ser His Gly Gly Cys
151 50 55 60
152 Leu Ala Leu Ser His Lys Phe Ser Ala Ser Thr Phe Trp Lys Gln Val
153 65 70 75 80
154 Tyr Leu Thr Gly Ala Thr His Ile Gln Tyr Ile Gly Glu Ile Cys Arg
155 85 90 95
156 Tyr Leu Leu Ala Ala Asn Pro Cys Pro Glu Glu Lys Gln His Asn Val
157 100 105 110
158 Arg Leu Met Trp Gly Asn Gly Leu Arg Gly Gln Ile Trp Lys Glu Phe
159 115 120 125
160 Val Gly Arg Phe Gly Ile Lys Lys Ile Gly Glu Leu Tyr Gly Ser Thr
161 130 135 140
162 Glu Gly Asn Ser Asn Ile Val Asn Val Asp Asn His Val Gly Ala Cys
163 145 150 155 160
164 Gly Phe Met Pro Ile Tyr Pro His Ile Gly Ser Leu Tyr Pro Val Arg
165 165 170 175
166 Leu Ile Lys Val Asp Arg Ala Thr Gly Glu Leu Glu Arg Asp Lys Asn
167 180 185 190

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DATE: 02/22/2001

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TIME: 15:20:20

Input Set : A:\87767whi9721p3mc2 seq list.txt.txt

Output Set: N:\CRF3\02222001\I405504A.raw

```

168 Gly Leu Cys Val Pro Cys Val Pro Gly Glu Thr Gly Glu Met Val Gly
169      195      200      205
170 Val Ile Lys Glu Lys Asp Ile Leu Leu Lys Phe Glu Gly Tyr Val Ser
171      210      215      220
172 Glu Gly Asp Thr Ala Lys Lys Ile Tyr Arg Asp Val Phe Lys His Gly
173      225      230      235      240
174 Asp Lys Val Phe Ala Ser Gly Asp Ile Leu His Trp Asp Asp Leu Gly
175      245      250      255
176 Tyr Leu Tyr Phe Val Asp Arg Cys Gly Asp Thr Phe Arg Trp Lys Gly
177      260      265      270
178 Glu Asn Val Ser Thr Thr Glu Val Glu Gly Ile Leu Gln Pro Val Met
179      275      280      285
180 Asp Val Glu Asp Ala Thr Val Tyr Gly Val Thr Val Gly Lys Met Glu
181      290      295      300
182 Gly Arg Ala Gly Met Ala Gly Ile Val Val Lys Asp Gly Thr Asp Val
183      305      310      315      320
184 Glu Lys Phe Ile Ala Asp Ile Thr Ser Arg Leu Thr Glu Asn Leu Ala
185      325      330      335
186 Ser Tyr Ala Ile Pro Val Phe Ile Arg
187      340      345
189 <210> SEQ ID NO: 4
190 <211> LENGTH: 356
191 <212> TYPE: PRT
192 <213> ORGANISM: Saccharomyces cerevisiae
194 <400> SEQUENCE: 4
195 Tyr Ile Tyr Thr Ser Gly Thr Thr Gly Leu Pro Lys Ala Ala Ile Val
196 1      5      10      15
197 Val His Ser Arg Tyr Tyr Arg Ile Ala Ala Phe Gly His His Ser Tyr
198      20      25      30
199 Ser Met Arg Ala Ala Asp Val Leu Tyr Asp Cys Leu Pro Leu Tyr His
200      35      40      45
201 Ser Ala Gly Asn Ile Met Gly Val Gly Gln Cys Val Ile Tyr Gly Leu
202      50      55      60
203 Thr Val Val Leu Arg Lys Lys Phe Ser Ala Ser Arg Phe Trp Asp Asp
204      65      70      75      80
205 Cys Val Lys Tyr Asn Cys Thr Val Val Gln Tyr Val Gly Glu Val Cys
206      85      90      95
207 Arg Tyr Leu Leu His Thr Pro Ile Ser Lys Tyr Glu Lys Met His Lys
208      100      105      110
209 Val Lys Val Ala Tyr Gly Asn Gly Leu Arg Pro Asp Ile Trp Gln Asp
210      115      120      125
211 Phe Arg Lys Arg Phe Asn Ile Glu Val Ile Gly Glu Phe Tyr Ala Ala
212      130      135      140
213 Thr Glu Ala Pro Phe Ala Thr Thr Thr Phe Gln Lys Gly Asp Phe Gly
214      145      150      155      160
215 Ile Gly Ala Cys Arg Asn Tyr Gly Thr Ile Ile Gln Trp Phe Leu Ser
216      165      170      175
217 Phe Gln Gln Thr Leu Val Arg Met Asp Pro Asn Asp Asp Ser Val Ile
218      180      185      190

```

RAW SEQUENCE LISTING

DATE: 02/22/2001

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TIME: 15:20:20

Input Set : A:\87767whi9721p3mc2 seq list.txt.txt

Output Set: N:\CRF3\02222001\I405504A.raw

```

219 Tyr Arg Asn Ser Lys Gly Phe Cys Glu Val Ala Pro Val Gly Glu Pro
220      195      200      205
221 Gly Glu Met Leu Met Arg Ile Phe Phe Pro Lys Lys Pro Glu Thr Ser
222      210      215      220
223 Phe Gln Gly Tyr Leu Gly Asn Ala Lys Glu Thr Lys Ser Lys Val Val
224      225      230      235      240
225 Arg Asp Val Phe Arg Arg Gly Asp Ala Trp Tyr Arg Cys Gly Asp Leu
226      245      250      255
227 Leu Lys Ala Asp Glu Tyr Gly Leu Trp Tyr Phe Leu Asp Arg Met Gly
228      260      265      270
229 Asp Thr Phe Arg Trp Lys Ser Glu Asn Val Ser Thr Thr Glu Val Glu
230      275      280      285
231 Asp Gln Leu Thr Ala Ser Asn Lys Glu Gln Tyr Ala Gln Val Leu Val
232      290      295      300
233 Val Gly Ile Lys Val Pro Lys Tyr Glu Gly Arg Ala Gly Phe Ala Val
234      305      310      315      320
235 Ile Lys Leu Thr Asp Asn Ser Leu Asp Ile Thr Ala Lys Thr Lys Leu
236      325      330      335
237 Leu Asn Asp Ser Leu Ser Arg Leu Asn Leu Pro Ser Tyr Ala Met Pro
238      340      345      350
239 Leu Phe Val Lys
240      355
242 <210> SEQ ID NO: 5
243 <211> LENGTH: 334
244 <212> TYPE: PRT
245 <213> ORGANISM: Mycobacterium tuberculosis
247 <400> SEQUENCE: 5
248 Tyr Ile Phe Thr Ser Gly Thr Thr Gly Phe Pro Lys Ala Ser Val Met
249 1      5      10      15
250 Thr His His Arg Trp Leu Arg Ala Leu Ala Val Phe Gly Gly Met Gly
251      20      25      30
252 Leu Arg Leu Lys Gly Ser Asp Thr Leu Tyr Ser Cys Leu Pro Leu Tyr
253      35      40      45
254 His Asn Asn Ala Leu Thr Val Ala Val Ser Ser Val Ile Asn Ser Gly
255      50      55      60
256 Ala Thr Leu Ala Leu Gly Lys Ser Phe Ser Ala Ser Arg Phe Trp Asp
257      65      70      75      80
258 Glu Val Ile Ala Asn Arg Ala Thr Ala Phe Val Tyr Ile Gly Glu Ile
259      85      90      95
260 Cys Arg Tyr Leu Leu Asn Gln Pro Ala Lys Pro Thr Asp Arg Ala His
261      100      105      110
262 Gln Val Arg Val Ile Cys Gly Asn Gly Leu Arg Pro Glu Ile Trp Asp
263      115      120      125
264 Glu Phe Thr Thr Arg Phe Gly Val Ala Arg Val Cys Glu Phe Tyr Ala
265      130      135      140
266 Ala Ser Glu Gly Asn Ser Ala Phe Ile Asn Ile Phe Asn Val Pro Arg
267      145      150      155      160
268 Thr Ala Gly Val Ser Pro Met Pro Leu Ala Phe Val Glu Tyr Asp Leu
269      165      170      175

```

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

DATE: 02/22/2001

PATENT APPLICATION: US/09/405,504A

TIME: 15:20:21

Input Set : A:\87767whi972lp3mc2 seq list.txt.txt

Output Set: N:\CRF3\02222001\I405504A.raw

L:703 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:704 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:705 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:707 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:708 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:821 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:881 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:883 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:885 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:2694 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:2708 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:3533 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54
L:3572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55
L:5419 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86
L:5837 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:93